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RESEARCH PROGRAM ON THE
TRAINING OF
SKILLED MANPOWER

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A SELECTED BIBLIOGRAPHY
ON THE
SOCIAL AND ECONOMIC IMPLICATIONS
OF
ELECTRONIC DATA PROCESSING



Department of Labour, Canada,
in co-operation with federal and
provincial government agencies and
other groups



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Research Program on the
Training of Skilled Manpower

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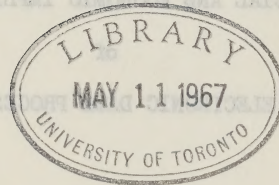
March 1964.

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A SELECTED BIBLIOGRAPHY

on the

SOCIAL AND ECONOMIC IMPLICATIONS



Department of Labour
Economics and Research Branch

March 1964

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INTRODUCTION

This bibliography is intended as a reference guide to material, published between the years 1955^{*} and 1963 inclusive, on office automation. Because of the increasing number of people affected by this segment of the field of technological change and the large amount of written material on the subject, the need for such a research tool has become increasingly evident.

As many annotations as possible are included given the time and personnel at our disposal; exceptions were made where the contents of an item are self-evident from the title. Some entries have been cross-referenced; in such cases, the annotation will be under the main entry only.

References are in alphabetical order, by name of author or publication, under the various group headings. The publication title has been used for alphabetical classification when the name of the author was unknown; government publications are listed by country and government agency, although in a few instances they are also listed by name of author.

To use this bibliography, one should determine which aspect of office automation one wishes to investigate and check the entries under that heading, as well as material under the General section which may be relevant.

^{*} Material prior to 1955 has been included in a small number of cases when it was considered of continuing interest.

Other bibliographies which were particularly useful in the preparation of this publication are: "Economic and Social Implications of Automation", Gloria Check; "Implications of Automation and Other Technological Developments", U.S. Department of Labor; and the Bulletin of the Public Affairs Information Service.

The personnel of the Department of Labour Library was very helpful in the search for and collection of reference material.

This bibliography was prepared by Miss Helen Traynor under the supervision of Dr. John C. McDonald of the Training Research Division, and Dr. Paul Casselman, Chief of the Manpower Resources Division of the Economics and Research Branch, Department of Labour.

1. GENERAL

The General division includes items which deal with office automation on a broad scale and cover most of its various aspects. Book length publications will, as a rule, be found in this section.

American Management Association. Computer-based Management for Information and Control. New York. The Association. 1963. 52 pp.

Sections on: information processing and profit survival, the computer and information processing, management attitudes toward an information system, past shortcomings in computer utilization, and the decision-making potential of computers.

American Management Association. Data Processing Today: A Progress Report: New Concepts, Techniques, and Applications, AMA Management Report No. 46. New York. The Association. 1960. 143 pp.

American Management Association. Electronics in Action: The Current Practicality of Electronic Data Processing. Special Report No. 22. New York. The Association. 1957. 156 pp.

Discussion of feasibility studies, installation, personnel selection and training, and new developments by representatives of companies with well-established electronic data processing systems.

American Management Association. Men, Machines and Methods in the Modern Office. New York. The Association. 1958. 148 pp.

Anshen, Melvin. "The Manager and the Black Box." Harvard Business Review. November-December 1960. pp. 85-92.

See under Social and Economic Implications.

Australian Railways Union Federal Office News. "Automation in the Office: Physical and Psychological Effects." September 1963, p. 2.

Resume of findings on office automation in Japan reported in June 1963 I.L.O. Review.

Becker, E.R. and E. Murphy. The Office in Transition: Meeting the Problems of Automation. New York. Harper. 1957. 190 pp.

Describes the problems which arise in introducing automation. Gives details on: the meaning of automation; the punch card, computer, and integrated data processing; procedure analysis and standardizing work methods; job descriptions; and preparing people for change.

Bello, F. "The War of the Computers." Fortune. October, 1959. pp. 128-133 ff.

An account of what the nine leading firms in the computer field are doing.

Berlin, M.B. "How Did Computers Happen?" Computers and Automation. Vol. 11. April 1962. pp. 18-19 ff.

Bermont, L.E. "Integrated Processing Sets New Office Pace." Credit and Financial Management. November 1958. pp. 8-10.

Bernstein, Jeremy. "Profiles: The Analytical Engine" in the New Yorker. Vol. 39, No. 35. October 19, 1963. pp. 58-96. No. 36. October 26, 1963. pp. 54-108.

Explanatory article on the workings of electronic computers with detailed history of early developmental phase.

Boehm, George. "The Next Generation of Computers". Fortune. March, 1959. pp. 132-135.

Bright, James R. "Are We Falling Behind in Mechanization?" Harvard Business Review. November-December, 1960. pp. 93-106.

An appraisal of U.S. production leadership and a comparison with foreign countries. Trends in various aspects of production and in integration of data processing with production machinery. Implications for employment, training, and management functions.

Bright, James R. "Progress and Payoff in Industrial Automation". Dun's Review of Modern Industry. January 1960. pp. 44-46 ff.

Examination of various aspects of automation: mechanization of work feeding and removal, material handling, assembly, inspection, distribution, testing packaging, data processing, maintenance, communications, feedback and program controls. Describes operation of automatic plants and the benefits and disadvantages.

American Management Association. The Changing Dimensions of Office Management: Technical and Managerial Trends in Administrative Operations. AMA Management Report No. 41. New York. 1960. 159 pp.

Changes in data processing and office management described in papers by 25 experts. The impact of change on traditional ways, and future outlook.

Buckingham, Walter S. Automation: Its Impact on Business and People. New York. Harper. 1961. 196 pp.

'Automation' discussed broadly and simply. Deals with effects of automation, skills downgrading or upgrading, physical effects, social consequences, allocation of benefits, use of consequent leisure time.

Business Week. "Computers: A Delayed Revolution." June 21, 1958. pp. 68-92.

Business Week. "Layman's Guide to Computers". September, 1960. pp. 163-173.

Business Week. "Packaged Logic for Computers: Software to Make Them Work". September 23, 1961. pp. 70-78.

"Business Week Reports to Readers on: Computers". June 21, 1958. pp. 68-92.

Calhoun, E.S. "What's Coming in Office Automation?" Office Executive. January, 1958. pp. 48-50.

Canada. Department of Labour. Economics and Research Branch. The Current Status of Electronic Data Processing in Canada. Report No. 9-A. Research Program on the Training of Skilled Manpower. Ottawa. 1960. 30 pp.

See under Surveys.

Canada. Department of Labour. Economics and Research Branch. A Second Survey of Electronic Data Processing in Canada, 1962. Report No. 9-C. Research Program on the Training of Skilled Manpower. Ottawa. 1963. 96 pp.

See under Surveys.

Canada. Department of Labour. Women's Bureau. "Mechanization and Automation in Offices." Labour Gazette. April 1960. p. 364.

Expresses little doubt that introduction of electronic computers for data handling will bring profound changes to office work and to employment outlook for clerical workers. I.L.O. committee studies effects of office mechanization and automation.

Canada. Labour Gazette. "British Unions Report on Effects of Automation in Offices." July, 1961. p. 670.

Canada. Parliament. Senate. Special Committee on Manpower and Employment. Ottawa. Queen's Printer. 1961. 1516 pp.

Office automation pp. 341-355.

The Canadian Office. "What Office Managers Should Know about Data Processing Systems." Vol. 9. No. 4. April, 1963 (entire issue).

Canning, Richard G. Electronic Data Processing for Business and Industry. New York. Wiley. 1956. 332 pp.

Chartier, Roger. "Aspects Techniques de l'Automation." Relations Industrielles. December, 1955. pp. 45-56.

Includes definition, integration, feedback, electronic computing.

The Computing and Data Processing Society of Canada. Proceedings. Canadian Conference for Computing and Data Processing. June 9-10, 1958. Toronto. The University Press. 383 pp.

The Computing and Data Processing Society of Canada. Proceedings. Second Conference. June 6-7, 1960. Toronto. The University Press. 365 pp.

Coughlin, Howard. "Automation in the Office." Labor Today. June-July 1963. pp. 7-12.

Coughlin, Howard. "That Computer Won't Wear a White Collar." Federation News. October, 1961. p. 43.

Cowperthwaite, G.H. "Realistic Appraisal of Data Processing". Canadian Chartered Accountant. Vol. 82. February, 1963. pp. 110-114.

Curry, Robert B. "The Significance of Computer Investment Decisions." Computer Automation. Vol. 11. No. 9. September, 1962. pp. 8-10.

Discussion of computer investment and profit-making directed at management. Implies necessity of relying heavily on computers.

Dean, Neal J. "Computer Installation - Will it Pay to Wait?" Management Review. March, 1960. pp. 24-83.

Companies that have recently acquired computers as well as those now considering EDP for the first time are interested in knowing if developments around the corner will make today's computers obsolete. Article discusses types of obsolescence and risks of obsolescence.

Diebold, John. Automation: Its Impact on Business and Labor. Washington. National Planning Association. 1959. 64 pp.

Automation in factory and office and its effects on employment, upgrading and downgrading, retraining, and management. Includes study on the rate and extent of introduction of automation.

European Productivity Agency. Integrated Data Processing and Computers. Paris. 1960. 77 pp.

Forbes, William B. "Automation - What's it All About?" Office Equipment and Methods. January, 1956. pp. 8-9; 43-44.

Summarizes the limitations of electronic computers and emphasizes that human minds decide the questions, facts and instructions given to machines.

Forbes, William B. "Office Automation Need Not Cost Millions." Financial Post. May 12, 1956. p. 49.

Fox, E.H. "A Study of the Economic and Social Impact of Automation Upon Management and Personnel in Business Offices in Memphis, Tennessee." Dissertation Abstracts. April, 1963. pp. 3665-3666.

See under Effects and Adjustments.

Free Labor World. "Mechanization Invades the Office". February, 1961. pp. 63-68.

Gould, E.C. "Office Automation." Monetary Times. June, 1962. pp. 16-19 ff.

Grabbe, Eugene Munter, editor. Automation in Business and Industry. New York. Wiley. 1957. 611 pp.

How automation works: fundamentals, new techniques and applications. Lectures by scientists and engineers on various aspects of automation including analog and digital computation and data processing.

Great Britain. Department of Scientific and Industrial Research.
Automation: A Report on the Technical Trends and Their Impact
on Management and Labour. London. Her Majesty's Stationery
Office, 1956. 106 pp.

Company case studies indicating impact of automatic pro-
duction and data processing on organization, employment,
skills, employee morale, and job requirements.

Great Britain. Department of Scientific and Industrial Research.
Automation in Perspective. London. H.M.S.O. 1956. 28 pp.

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Hemberg, C.F. "Office Automation Growing in Canada." Office Equipment
News. March, 1957. p. 25.

Herbert, H.F. "Computers in the Tax Collecting Process." Canadian
Chartered Accountant. January, 1964. pp. 48-51.

An account of the changeover to electronic data processing
in the Canadian Government Taxation Division. Includes:
evaluation of manual procedures, the pilot plant for Ontario
wage returns, tax return verification, master file record,
problem of updating tape record, accounting tasks, matching
the income data, audit selection, statistics and management
data, and effect on taxpayers.

Hill, R.V. "EDP Necessitates Many Revisions in Auditing Process."
National Underwriter. Vol. 67. January 18, 1963. pp. 12 ff.

Hilton, Alice Mary. "Digital Computing Machines!" Electro-Technology.
October, 1960. pp. 163-185.

Hirsch, Phil. "Automation, Clerks, Bookkeepers." New Republic. Vol. 146.
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Hoos, I.R. "When the Computer Takes Over the Office." Harvard Business
Review. July-August, 1960. pp. 102-113.

See under Effects and Adjustments.

Huskey, H.D. "Development of Computing Machines." Office. Vol. 55.
January, 1962. pp. 132-134.

Industrial Canada. "Modern Office - People vs. Paper." December, 1960.
pp. 98-100, 102.

International Federation of Commercial, Clerical and Technical Employees.
"Office Automation and the Non-Manual Worker." Newsletter.
December 1962. pp. 6-8.

International Labour Organization. Advisory Committee on Salaried Employees and Professional Workers. Effects of Mechanization and Automation in Offices. Report III. Geneva. I.L.O. 1959. 121 pp.

See under Effects and Adjustments.

International Labour Review. "Effects of Mechanization and Automation in Offices." February 1960, pp. 154-173; March 1960, pp. 255-273; April 1960, pp. 350-369.

I.U.D. Bulletin. "Revolution in Office Work." June, 1959. p. 15.

I.U.D. Digest. "The Coming White-Collar Crisis." Summer, 1959. pp. 10-17.

I.U.D. Digest. "White Collar and Automation." Winter, 1958. pp. 68-73.

Jacobson, Howard Boone and Joseph S. Rousek, editors. Automation and Society. New York. Philosophical Library. 1959. 553 pp.

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Kovalcik, F.J. "Electronic Data Processing", Electrical World. March 28, 1960. pp. 65-80.

Kraut, Allen I. "How EDP is Affecting Workers and Organizations." Personnel. Vol. 39. July-August, 1962. pp. 38-50.

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Krommes, H. "Mechanisation Invades the Office." Free Labour World. No. 128. February, 1961. pp. 63-68.

Laing, R.S. "Everyone Will Benefit from Office Automation." Office. Vol. 57. January, 1963. pp. 129 ff.

Levin, Howard S. Office Work and Automation. New York. John Wiley. 1956. 203 pp.

Lilley, S. Automation and Social Progress. London, Lawrence & Wishart. 1957. 224 pp.

Automation in the office, pp. 67-79.

Mann, A.O. "Automation in Relation to the Office." Office Executive. October, 1959. pp. 17-20.

Maynard, B.A. "Integrated Data-processing and Computers." Manager.
January, 1961. pp. 60-63.

Discusses difficulties created by the introduction of a computer in the office.

McDonald, John. Impact and Implications of Office Automation. Research Monograph Series. Economics and Research Branch. Department of Labour. Ottawa. Queen's Printer. 1964.

See under Social and Economic Implications.

McManus, G.J. "Are Computers Taking Over Management's Functions?" Iron Age. March 30, 1961. pp. 69-71.

McNamara, E.W. "Filing Problems of Office Automation." The Office. December, 1958. pp. 92-94.

Modern Industry. "The Fitful Beginnings of Office Automation." October, 1955. pp. 57-64.

Moos, S. "The Scope of Automation." The Economic Journal. March, 1957. pp. 26-39.

A look at automation present and future: size and location of firms, progress of new industries, employment, investment, and size of production runs. Effects of electronic computers on office work and management. Also the type and size of electronic computers.

Office Equipment and Methods. "How to Assess Automation for your Office." January, 1957. pp. 27-31.

Office Management Association. Electronics in the Office. London. The Association. 1957. 132 pp.

Paton, W. "IDP System Cuts Paperwork, Aids in Report to Management." Purchasing. July 4, 1960. pp. 50-53.

Political and Economic Planning. Three Case Studies in Automation. London. July, 1957. 58 pp.

One case study is on the use of a computer in office work; the other two are applications to factory work. Includes employment, training, skill requirements, working conditions and job satisfaction. Papers presented at a Conference on Automation, European Productivity Agency, April 8-12, 1957, Paris.

Pollock, Frederick. The Economic and Social Consequences of Automation. Oxford. B. Blackwell. 1957. 276 pp.

Office work, pp. 158-164.

Provost, J.E.L. "The Effect of Automation in the Office." Office Equipment News. August, 1956. pp. 21-24.

The Railway Clerk. "White-Collar Automation." September 15, 1959. pp. 15-17.

Rhea, J.A. "Automation Slashes Paperwork, Raises Manufacturing Efficiency." Office Management and American Business. July, 1960. pp. 24-26.

Santesmases, J. Garcia. "A Few Aspects of the Impact of Automation on Society." Impact of Science on Society. Vol. 9, No. 2. 1961. pp. 107-126.

History of the progress of automation: feedback systems, electronic computers, and automation in machine tools. Social and economic implications.

Schultz, G.P. and T.L. Whisler, editors. Management Organization and the Computer. Glencoe, Illinois. The Free Press. 257 pp.

See under Effects and Adjustments.

Smith, G.M. Office Automation and White-Collar Employment. New Brunswick, N.J. Rutgers University. Institute of Management and Labor Relations. Bulletin No. 6. 1959. 26 pp.

Covers machine developments, displaced workers, 'hidden unemployment', jobs newly created, transfers, training and retraining, occupational requirements, shift work and unions.

Smith, H.R. "Office Automation." Office Management. January, 1957. p. 3.

Snowwhite, Morton. "Automation in the Office." Business Literature. October, 1959. pp. 23-24.

Thomason, George F. "Automation Invades the Office." Plebs. December, 1957, pp. 275-278; January, 1958, pp. 9-10.

Ward, H. "Modern Office Work in Great Britain." The Office. January, 1961. p. 203.

2. PLANNING AND ADMINISTERING AN E.D.P. SYSTEM

Items dealing with the preparatory steps leading to the installation of an electronic data processing system, organization of the computer centre, and management of the conversion process are included under this heading.

Adelaide, Australia. Summer School of Business Administration. Electronics and Automation. Adelaide. Griffin Press. 1957. 54 pp.

Administrative aspects of automation in the office and economic and social implications.

American Management Association. Administrative Automation Through IDP and EDP. New York. The Association. 1956. 72 pp.

Office Mechanization p. 30.

American Management Association. Electronics in Action: The Current Practicality of Electronic Data Processing. Special Report No. 22. New York. The Association. 1957. 156 pp.

See under General.

American Management Association. Gaining Acceptance for Major Methods Changes. By Ben Miller. AMA Research Study 44. New York. The Association. 1960. 63 pp.

See under EDP in: Banking.

Barrington, J. Arthur as told to Raymond Dreyfack. "The Computer and I." Management Review. July, 1961. pp. 45-51.

A bit of humour about the steps leading to a computer installation.

Baumes, Carl G. Administration of Electronic Data Processing. Studies in business policy, No. 98. New York. National Industrial Conference Board. 1961. 136 pp.

How to plan and establish an electronic data processing system, based on case studies of experienced companies who have gone through the process. Indicates how they selected personnel, judged performance and obtained employee support.

Bell, James R. and Lynwood B. Steedman. Personnel Problems in Converting to Automation. The Inter-University Case Program. 44. University of Alabama Press. 1960. 14 pp.

See under EDP in Government.

Boni, G.M. "Impact of Electronic Data Processing on Auditing." Journal of Accountancy. Vol. 116. September 1963. pp. 39-44.

Business Week. "Computers Take to Prophecy." No. 1761. June 1, 1963. pp. 47-48.

Business Week. "Faster, Brainier Computer Breed to Devour Business Data." May 30, 1959. pp. 64-65 ff.

Canning, Richard G. Installing Electronic Data Processing Systems. New York. Wiley. 1957. 193 pp.

The planning and establishment of a system and the early stages of operation. Covers programming and personnel problems.

Carter, S. "Installation of Automatic Office Equipment in an Insurance Company." Man and Automation. Report of Proceedings of a Conference sponsored by the Society for Applied Anthropology at Yale University, December 27, 28, 1955. New Haven, Conn. The Technology Project, Yale University. 1956. pp. 23-25.

See under EDP in: Insurance.

Coburn, H.B. "Alerting the Staff on the Move to Automation." Burroughs Clearing House. June, 1961. pp. 39-40.

See under EDP in: Banking.

Controllers Institute Research Foundation, Inc. Business Experience with Electronic Computers. New York. 1959. 191 pp.

How 17 large companies decided on the size and scope of their electronic programs. The planning and development of their EDP systems and their relations with the manufacturers.

Cooley, E.F. "Computer Methods and Application: A Case Study." The Impact of Computers on Office Management. Office Management series No. 136. New York. American Management Association. 1954. pp. 41-46.

See under EDP in: Insurance.

Craig, H.F. "Administering a Conversion to Electronic Equipment: A Case Study of a Large Office." Division of Research. Graduate School of Business Administration. Harvard University. Boston. 1955. 235 pp.

See under Personnel Management and Industrial Relations.

Craig, H.F. "Administrative Aspects of Automation in an Office." Electronics and Automation. University of Adelaide. Summer School of Business Administration. 1957. pp. 25-36.

Diebold, J. "False Starts in Office Automation and How to Avoid Them." Management Review. July, 1957. pp. 81-88.

Dorstewitz, Alfred H. "Preparing for the Office of Tomorrow." Management Review. March, 1956. pp. 171-173.

Fairbanks, R.W. Successful Office Automation. Prentice-Hall Inc. 1956. 355 pp.

Review of clerical automation, its advantages and disadvantages. How to plan for automation and make use of human resources in office of the future.

Flock, L.R. "Seven Deadly Dangers in E.D.P." Harvard Business Review. May-June, 1962. pp. 88-96.

Seven dangers encountered with EDP programs are discussed.

Floyd, William B. "How to Make Computers More Effective in Business." The Canadian Office. July, 1962. pp. 6-15.

Claims computers are often used to poor advantage but can be quite capable of clerical work when given the right input.

Gill, William A. "Economic Considerations in the Use of Electronic Computers." Computers and Automation. Vol. 6. No. 8. August 1962, pp. 6-15.

Factors which justify or are essential to an economically successful computer application. Rules discussed are applicable to any type of organization.

Goodman, H. "How the Office Prepares for the Coming of Automation." Canadian Business. Vol. 30. pp. 42, 44-45. August, 1957.

Gregory, Robert H. and Richard L. Van Horn. Automatic Data Processing Systems; Principles and Procedures. San Francisco. Wadsworth Publishing Co. 1960. 705 pp.

Haddy, Pamela. "Some Thoughts on Automation in a British Office." Journal of Industrial Economics. February, 1958. pp. 161-170.

The decision to convert to EDP, jobs which the computer does, and the workers employed at J. Lyons & Co. (England). A case study.

Hossack, William R. "Facts on Electronic Computers for Canadian Businessmen." Canadian Business. April 1960. pp. 74-77.

Examines electronic computers and provides background needed in decision on feasibility of such equipment for a particular business.

Johnson, W.H. "Installation of Automatic Office Equipment and the Manufacturer." Man and Automation. Report of Proceedings of a Conference. New Haven, Conn. Technology Project. Yale University. 1956. pp. 17-22.

Job requirements, content of jobs, and educational problems faced.

Keller, A.E. "They do a Heap of Planning Down at State Farm." Business Automation. Vol. 7. No. 5. May 1962. pp. 29-33.

See under EDP in: Insurance.

Kellogg, L.B. "Computer Planning for the Average Company." Canadian Chartered Accountant. Vol. 82. June, 1963. pp. 410-414.

Koontz, H. "Top Management Takes a Second Look at Electronic Data Processing." Business Horizons. Spring 1959. pp. 74-84.

Leavitt, H.J. and T.L. Whisler. "Management in the 1980's." Harvard Business Review. November-December, 1958. pp. 41-48.

New information flows cut new organization channels.

Management Methods. "How Firms are Automating Their Offices." March, 1958. pp. 28-30.

Mann, F.C. and L.K. Williams. "Organizational Impact of White-Collar Automation." Proceedings of Eleventh Annual Meeting of Industrial Relations Research Association. Chicago. 1958. pp. 59-69.

See under Effects and Adjustments.

Martino, Rocco L. "Computers Call for Decision." Executive. May, 1960. pp. 35-38.

Recommends bold re-organization of the firm as initial step. Only way in which computer will allow control to return to top management.

National Industrial Conference Board. Management's Role in Electronic Data Processing. Studies in business policy. No. 92. New York. 1959. 64 pp.

Discusses the various steps in the decision to convert to EDP, planning and organizing the installation, measuring the results, and employee reactions. Company experiences and case studies.

Nepveu, Paul A. "Decision Making Using a Computer: A Transportation Company." Proceedings of the Third Conference of the Data Processing Society of Canada, 1962. Ontario. University of Toronto Press. pp. 21-30.

See under EDP in: Transportation and Utilities.

Ogden, C.F. "Developing Supervision of Automated Offices." Office. Vol. 57. January 1963. pp. 104 ff.

Ritchie, J.W. "A Canadian Company's Approach to the Use of Electronic Equipment for Data Processing." Proceedings, 15th International Congress of Actuaries. New York. 1957. pp. 72-84.

Account of a 'combined operations' approach to the installation of a computer in a large company.

Rollit, John. "CPR's First Year with a Computer." Office Equipment News. May, 1958. pp. 32-35.

Results to date show investment justified and host of unanticipated financial benefits now foreseen just waiting to be gleaned.

Ronayne, Maurice F. "The Personnel Side of Automatic Data Processing." Public Personnel Review. October, 1960. pp. 243-248.

Planning and establishing an electronic data processing system. Includes occupations in electronic data processing, qualifications required and education needed; job displacement and personnel management.

Rowe, A.J. "Management Decision Making and the Computer." Management International. Vol. 2. 1962. pp. 9-22.

Although there may be organizational changes in a computer-based system, the net effect will be better decision making and control because of more timely and accurate information.

Rowlands, H.W. "The Canadian Scene in Computing and Data Processing." Proceedings of the 1st Annual Conference of the Canadian Computing and Data Processing Society. 1958. pp. 287-297.

A summary of the experiences of twenty-seven Canadian organizations which had already installed computers or were so advanced in their preparations that the information should be of interest.

Schultz, G.P., and T.L. Whisler, editors. Management Organization and the Computer. Glencoe, Illinois. The Free Press. 257 pp.

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Scott, W.H. Office Automation and the Non-Manual Worker. OECD. Paris. 1962. 49 pp.

Chapters on: The problem, the firm, methods; Pre-change situation; Decision to introduce computer; Installation period; Future.

Society for Applied Anthropology. "Automation in the Office." Man and Automation. New Haven. Yale University. 1956. pp. 16-42.

See under EDP in: Insurance.

Southern California, University of. Department of Psychology. The Role of Humans in Complex Computer Systems: A Description of the Study, Programming, and Maintenance. Technical Reports Nos. 24, 25 and 26. Los Angeles. 1959. 226 pp.

Report on problems connected with the programming and maintenance of digital computers. Covers programming, programmers, and the selection, training and supervision of maintenance technicians.

Smith, Owen. "Automation Management's Current Confusion." Administrative Management. October, 1961. pp. 20-21.

Smith, R.M. "Why New Computer Coding Techniques May Accelerate Pace of Office Automation." Office Management. October, 1958. pp. 27-29.

Smith, S.S. "Computer Utilization Studies - A Review." Canadian Chartered Accountant. January, 1964. pp. 32-35.

An examination of the difficulties of feasibility studies: how each application will differ, the state of computer technology, where equipment could be improved, and the correct approach to feasibility studies.

Supervisory Management. "Steps to Office Mechanization." April, 1960. pp. 58-59.

Tapsell, J.E. "Management and Electronic Data Processing." The Commerce Journal. 1958. pp. 63-67.

Thomas, F.P. Communications at Work: Introducing an EDP System to the Organization. Hydro Electric Power Commission of Ontario. Mimeographed. 13 pp.

Thomas, Fred P. "We Decided in Favour of EDP." Office Equipment News. January, 1959. pp. 18-20.

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U.S. Congress, Joint Economic Committee. Automation and Technological Change: Hearings. Subcommittee on Economic Stabilization, 84th Cong., 1st sess. Washington. U.S. Government Printing Office. 1955. 644 pp. Summarized by Edgar Weinberg in Monthly Labor Review. January 1956. pp. 7-14.

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6. WORKER DISPLACEMENT AND UNEMPLOYMENT

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Gould, Ernie. "Automation - No Place for People?" Monetary Times. Vol. 131. No. 11. November, 1963. pp. 9-13.

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8. PERSONNEL MANAGEMENT AND INDUSTRIAL RELATIONS

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Plant, C.T. "Some Sociological Problems Raised by the Introduction of Electronic Computers in Offices." Trade Union Information. No. 35. pp. 26-29.

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Political and Economic Planning. Three Case Studies in Automation. London. July, 1957. 58 pp.

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U.S. Department of Labor. Bureau of Labor Statistics. Impact of Office Automation in the Internal Revenue Service. Bulletin 1364. Washington, G.P.O. 1963. 74 pp.

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Vannah, W.E. "Automation: Some Human Problems." Personnel. September, 1955. pp. 100-106.

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Weber, Philip H. Salary Administration for Data Processing Personnel. Revised edition. Elmhurst, Ill. Business Press, OA Business Publications, Inc. 1963. 1 Volume (loose-leaf).

See under Occupations and Employment.

9. E.D.P. IN SPECIFIC TYPES OF ORGANIZATIONS

This section is divided into sub-groups as follows: Banking, Government, Insurance, Manufacturing, Transportation and Utilities, and Wholesale and Retail Trade. The items included here refer to the experience of particular types of organizations with electronic data processing.

A. BANKING

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Cowperthwaite, G.H. "Bank Automation - A Review." Canadian Chartered Accountant. June, 1961. pp. 543-560.

Grinrod, J. "Centralized Accounting at Barclays Bank in London." Office. Vol. 58. August, 1963. pp. 92-93 ff.

Hoos, I.R. "The Impact of Office Automation on Workers." International Labour Review. October, 1960. pp. 363-388.

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Mignone, A.E. "Application of Automated Procedure to Banking Practice." Automation Systems: Proceedings. 2nd Electronic Industries Association Conference on Automation Systems for Business and Industry. New York. Engineering Publishers. 1958. pp. 73-77.

Occupational Outlook Quarterly. Effect of Automation on Employment in Banks." December, 1962. pp. 9-12.

Ritchie, C.E. "Automation Comes to Canadian Bank: Bank of Nova Scotia." Office Equipment News. June, 1958. pp. 26-29.

Scanlon, Burt K. "After You Automate, Then What?" Office Management and American Business. March, 1961. pp. 30-32.

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Silberman, Lee and Jonathan Spivak. "Banks Rush Automation Programs to Cope With Soaring Check Volume." Wall Street Journal. September 11, 1959. p. 1.

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U.S. Congress, Joint Economic Committee. Automation and Recent Trends: Hearings. Subcommittee on Economic Stabilization 85th Cong., 1st sess., November 14 and 15, 1957. Washington. U.S. Government Printing Office. 1957. 100 pp.

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Wiener, R. "Changing Manpower Requirements in Banking." Monthly Labor Review. September, 1962. pp. 989-995.

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B. GOVERNMENT

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Austin, A.V. "Statement to the Subcommittee on Automation and Energy Resources." New Views on Automation. U.S. Congress, Joint Economic Committee. 86th Cong., 2nd sess. Washington. U.S. Government Printing Office. 1960. pp. 157-165.

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Automation Consultants Inc. Office Automation: Government. New York. 1960. (Loose-leaf service.)

Bell, James R. and Lynwood B. Steedman. Personnel Problems in Converting to Automation. The Inter-University Case Program. 44. University of Alabama Press. 1960. 14 pp.

Planning and establishing electronic data processing in the California Department of Employment and the personnel problems involved, such as: transfer and training of programmers and operators.

Bergamini, David. "Government by Computers." The Reporter. August 17, 1961. pp. 21-28.

The uses to which computers are put in U.S. Federal, State and local governments; the advantages and disadvantages; and their effects on government planning, decisions and work procedures.

Blau, Paul F. "Office Automation in Austria." Trade Union Information. No. 24, 1959. pp. 18-25.

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Brown, M.L. "Mechanization of Workload Counts." Employment Security Review. November, 1962. pp. 9-12.

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Halstead, H.M. "New Internal Revenue System; What Automatic Data Processing Means to Taxpayers." Taxes. Vol. 40. August, 1962. pp. 632-641.

Hattery, L.H. "Electronic Computers and Personnel Administration." Personnel Administration. March-April, 1956. pp. 7-13.

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Hattery, L.H. "EDP: Implications for Public Administration." Public Administration Review. Vol. 22. No. 3. September, 1962. pp. 129-130.

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Hoos, I.R. "The Impact of Office Automation on Workers." International Labour Review. October, 1960. pp. 363-388.

See under EDP in: Banking.

Marshall, J.T. "The Application of Computers in the Government of Canada." Canadian Public Administration. June, 1963. pp. 148-155.

Merriman, J.H.H. "Automatic Data-processing in Government Departments." Whitley Bulletin. March, 1959. pp. 38-42.

Reilly, F.W. "Policy Decisions and EDP Systems in the Federal Government." Public Administration Review. Vol. 22. No. 3. September, 1962. pp. 130-133.

Account of how EDP has been used in the U.S. Federal Government in the past and how it can be used in the future.

Riche, Richard W. and William E. Alli. "Office Automation in the Federal Government." Monthly Labor Review. September, 1960. pp. 933-938.

Based on hearings before the Subcommittee on Census and Government Statistics of the House of Representatives, Committee on Post Office and Civil Service. Covers: displacement, reassignment, employee morale, selection, training and personnel planning.

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

$$\begin{cases} \Delta u = f(x, y, z, u, v, w) \\ \Delta v = g(x, y, z, u, v, w) \\ \Delta w = h(x, y, z, u, v, w) \end{cases} \quad (1)$$

where f, g, h are continuous functions of the variables x, y, z, u, v, w and satisfy certain conditions.

2. In the second part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are linear in the variables u, v, w .

3. In the third part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are quadratic in the variables u, v, w .

4. In the fourth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are cubic in the variables u, v, w .

5. In the fifth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of higher order in the variables u, v, w .

6. In the sixth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w .

7. In the seventh part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w and satisfy certain conditions.

8. In the eighth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w and satisfy certain conditions.

9. In the ninth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w and satisfy certain conditions.

10. In the tenth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w and satisfy certain conditions.

11. In the eleventh part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w and satisfy certain conditions.

12. In the twelfth part of the paper we consider the problem of the existence of solutions of the system of equations (1) under the assumption that the functions f, g, h are of arbitrary order in the variables u, v, w and satisfy certain conditions.

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Smith, William H. "Automatic Data Processing in the Internal Revenue Service." Computers and Automation. Vol. 11. No. 10. October, 1962. pp. 10-14. Also in Taxes. Vol. 41. January, 1963. pp. 26-31.

Account of why automatic data processing was needed in the U.S. Internal Revenue Service and how it is to be applied. One example of its possibilities is the matching of 350 million reports of payment of income against more than 61 million tax returns to discover where declarations of income have been omitted.

U.S. Bureau of the Budget. Inventory of Automatic Data Processing Equipment in the Federal Government, Including Costs, Categories of Use, and Personnel Utilization. Washington. May, 1961. 127 pp.

U.S. Civil Service Commission. Bureau of Programs and Standards. Personnel Impact of Automation in the Federal Service. Washington. U.S. Government Printing Office. 1958. 21 pp.

Procedure on the recruiting, training, qualification and position classification standards of electronic data-processing personnel. Impact of technological change on the hours of work, job stability and employee relations.

U.S. General Accounting Office. Survey of Progress and Trend of Development and Use of Automatic Data Processing in Business and Management Control Systems of the Federal Government as of December, 1957. Special report to the U.S. Congress by the Comptroller General. Washington. June, 1958. 170 pp.

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Description of automatic data processing in U.S. Veterans Administration and Department of the Treasury, includes: statements of union leaders and assessment of economies and their impact on employees.

U.S. Monthly Labor Review. "Impact of Office Automation in the Internal Revenue Service." April, 1963. pp. 388-393.

U.S. Internal Revenue Service in Atlanta Region and employment implications of the changeover.

U.S. Public Administration Review. "Electronic Data Processing in Public Administration: A Symposium." Vol. 22. September, 1962. pp. 129-152.

C. INSURANCE

American Management Association. The Impact of Computers on Office Management. Office Management Series, No. 136. New York. The Association. 1954. 60 pp.

Series on computers in relation to methods, payroll, programming for clerical production, and unemployment. Case studies on Prudential and Franklin Life Insurance.

Automation Consultants Inc. Office Automation: Insurance. New York. 1960. (Loose-leaf service.)

Blau, Paul F. "Office Automation in Austria." Trade Union Information. No. 24, 1959. pp. 18-25.

See under EDP in: Government.

Canada. Department of Labour. Economics and Research Branch. Electronic Data Processing Occupations in a Large Insurance Company. Research Program on the Training of Skilled Manpower. Report No. 9-B. Ottawa. 1961. 41 pp.

Job description of new electronic data processing occupations: the knowledge and skills required; the type of work involved; the type of person in the job; selection and training procedure; and employee attitudes toward the work and future prospects.

Carter, S. "Installation of Automatic Office Equipment in an Insurance Company." Man and Automation. Report of Proceedings of a Conference sponsored by the Society for Applied Anthropology at Yale University, December 27, 28, 1955. New Haven, Conn. The Technology Project, Yale University. 1956. pp. 23-25.

Installation of automatic office equipment at John Hancock Mutual Life Insurance Company. Years of psychological preparation, long process of education and reassurance that jobs would not be lost.

Cooley, E.F. "Computer Methods and Application: A Case Study." The Impact of Computers on Office Management. Office Management Series No. 136. New York. American Management Association. 1954. pp. 41-46.

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Hardin, E. "Computer Automation, Work Environment, and Employee Satisfaction: A Case Study." Industrial and Labor Relations Review. July, 1960. pp. 559-567.

Computer operations in an insurance company and the effects on jobs and job satisfaction, employee morale and attitudes to changes in the affected departments compared with those in other departments affected by other kinds of change.

Hardin, E. "The Reactions of Employees to Office Automation." Monthly Labor Review. U.S. Department of Labor. Washington, D.C. September, 1960. pp. 925-932.

The installation of a medium-size computer in an insurance company and its effects on job content and satisfaction in the affected department compared with those in unaffected departments.

Hoos, I.R. "The Impact of Office Automation on Workers." International Labour Review. October, 1960. pp. 363-388.

See under EDP in: Banking.

Jacobson, E. et al. "Employee Attitudes Toward Technological Change in a Medium-Sized Insurance Company." Journal of Applied Psychology. December, 1959. pp. 349-354.

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Keller, A.E. "They do a Heap of Planning Down at State Farm." Business Automation. Vol. 7. No. 5. May, 1962. pp. 29-33.

Describes organization and planning for EDP at State Farm Mutual Automobile Insurance Company. Includes a four-step approach to systems problems and the maintenance of a Works Process Manual.

Kerr, D.W. "Trust Company Wins Automation First." Office Administration. April, 1962. pp. 24-26.

Account of how Montreal Trust teamed 1401 computer with advanced transfer printer to compute, print and sign 7,200 cheques per hour.

Paul, B.R. "The Introduction of Electronic Data Processing in Life Insurance." Personnel Practice Bulletin. June, 1962. p. 7-11.

Covers: reasons for mechanization; period from 1942-1962; effects on employment; effects on the nature of the work; recruitment of staff.

Scanlon, Burt K. "After You Automate, Then What?" Office Management and American Business. March, 1961. pp. 30-32.

See under EDP in: Banking.

Smith, W.M. "Automation in the Life Insurance Business: A Case Study." Michigan Business Review. March, 1962. pp. 8-12.

Analysis in life insurance company shows EDP's probable effect in upgrading general job content.

Society for Applied Anthropology. "Automation in the Office." Man and Automation. New Haven. Yale University. 1956. pp. 16-42.

Report of the Proceedings of a Conference sponsored by the Society for Applied Anthropology at Yale University, December 27, 28, 1955.

Articles by: P.R. Lawrence, W.H. Johnson, Sylvia Carter, J.A. Littel, K.G. VanAuken, Jr., F.C. Mann.

Includes discussions on installation of automatic office equipment in an insurance company and in industry, the impact of automation on skills and employment and on the white-collar worker in a public utility company.

U.S. Department of Labor. Bureau of Labor Statistics. The Introduction of an Electronic Computer in a Large Insurance Company. Washington. G.P.O. October, 1955. 18 pp.

Field study report on the introduction of an electronic computer and its effects on employment, work-load and working conditions. Describes steps taken to prevent layoffs.

U.S. Monthly Labor Review. "Adjustments to Automation in Two Firms."
January, 1956. pp. 15-19.

One firm was a large manufacturer of radio and television sets, the other the home office of a large insurance company.

VanAuken, K.A. The Introduction of an Electronic Computer in a Large Insurance Company. Studies in Automatic Technology No. 2. U.S. Department of Labor. Bureau of Labor Statistics. Washington, D.C. 1955. 18 pp.

See U.S. Department of Labor. Bureau of Labor Statistics. Same title.

D. MANUFACTURING

American Management Association. Gaining Acceptance for Major Methods Changes. By Ben Miller. AMA Research Study 44. New York. The Association. 1960. 63 pp.

See under EDP in: Banking.

Automation Consultants Inc. Office Automation: Manufacturing. New York. 1960. (Loose-leaf service.)

Business Week. "Millennium for Decision Makers." August 10, 1963. p. 54.

Use of computer technology for completely integrated information system will, eventually, make all information for solving management problems only a push-button away. System now in operation at Lockheed Aircraft Corp. is described.

Dreher, Carl. Automation: What It Is, How It Works, Who Can Use It. New York. W.W. Norton & Co. 1957. 128 pp.

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Farrar, Gerald L. "Extent of Oil Industry's Use of Electronic Digital Computers." Oil and Gas Journal. April 13, 1959. pp. 116-121.

Littel, J.A. "Installation of Automatic Office Equipment in Industry." Man and Automation. Report of the Proceedings of a Conference. New Haven, Technology Project. Yale University. 1956. pp. 26-29.

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Phelan, W.E. "DuPont Adopts Automatic Data Processing at Kingston." Office Equipment News. November, 1958. pp. 24-27.

Order processing, inventory control, sales forecasts, statistical reporting and shipping included in ADP at nylon plant.

Tatham, L. "Sales Accounting in a Giant Company." Automatic Data Processing. Vol. 4. No. 4. April, 1962. pp. 3-32, 34-35.

An account of how the IBM 1401-7070 system at Esso Petroleum of Great Britain handles an integrated accounting process of products, stocks, invoicing, accounts receivable and payable, sales, fixed assets, and employee payrolls and records.

E. TRANSPORTATION AND UTILITIES

American Management Association. Gaining Acceptance for Major Methods Changes. By Ben Miller. AMA Research Study 44. New York. The Association. 1960. 63 pp.

See under EDP in: Banking.

Canadian National Magazine. "Office Automation; What's Happening in CNR Accounting?" January, 1956. pp. 4-5.

A question and answer interview - brings out many pertinent points.

The Canadian Office. "Computers Help Keep RCAF in the Air." Vol. 9, No. 9. September, 1963. pp. 16-18.

An account of the IBM 705 at Air Materiel Command Headquarters which attends to inventory records and location records relating to procurement, supply, maintenance, and operation of 400,000 different catalogue items needed to maintain daily RCAF activities. It handles 900,000 orders on Air Force stocks yearly.

Canadian Transportation. "Integrated Data Processing: A CPR Viewpoint." September, 1960. pp. 34-35.

Account of a talk "New Tools for Transportation Management" by E.A. Leslie, CPR vice-president, accounting, at the 1960 Transportation Management Programme, Stanford University, California.

Dreher, Carl. Automation: What It Is, How It Works, Who Can Use It.
New York. W.W. Norton & Co. 1957. 128 pp.

See under Social and Economic Implications.

Hoos, I.R. "The Impact of Office Automation on Workers". International Labour Review. October, 1960. pp. 363-388.

See under EDP in: Banking.

Leslie, E.A. "Integrated Data Processing: A CPR Viewpoint." Canadian Transportation. September, 1960. pp. 34-35.

Mann, F.C. "The Impact of Electronic Accounting Equipment on the White-Collar Worker in a Public Utility Company." Man and Automation. Report of the Proceedings of a Conference. New Haven, Conn. Yale University. 1956. pp. 32-39.

Discusses character of change on work, changeover process, management philosophy during a period of change, and effects of change on office force. Believes less repercussion in office than in factory because more time can be taken in conversion.

Mann, F.C. and L. Williams. "Observations on the Dynamics of a Change to Electronic Data Processing Equipment." Administrative Science Quarterly. Vol. 5. September, 1960. pp. 217-256.

What happens when electronic data processing is introduced in a light and power company: its effects on organization policy and procedure, job structure, and all levels of personnel. Findings from longitudinal case study.

Nepveu, Paul A. "Decision Making Using a Computer: A Transportation Company." Proceedings of the Third Conference of the Data Processing Society of Canada, 1962. Ontario. University of Toronto Press. pp. 21-30.

Decision making through modern mathematical methods and electronic data processing. Distinction made between data and information.

Society for Applied Anthropology. "Automation in the Office." Man and Automation. New Haven. Yale University. 1956. pp. 16-42.

See under EDP in: Insurance.

U.S. Department of Labor. Bureau of Labor Statistics. Studies of Automatic Technology: A Case Study of an Automatic Airline Reservation System. BLS Report 137. Washington, D.C. Government Printing Office. 1958. 21 pp. Summarized by Edward B. Jakubauskas in the Monthly Labor Review, September, 1958, pp. 1014-1016.

Study covers: the introduction of the system, effects on employees, job requirements, industrial relations, and its impact on the industry.

F. WHOLESALE AND RETAIL TRADE

Business Week. "Macy's Contract Pledges Retraining." April 29, 1961. p. 81.

Clause in union contract on retraining of department store employees made redundant by automation is examined.

Chain Store Age (Executives Edition). "Data Processing at the Warehouse." Vol. 38. September, 1962. p. 26.

Grinrod, J. "Computer Analyzes British Bar Sales." The Canadian Office. Vol. 9, No. 7. July, 1963. pp. 34-36.

Pegasus 2 computer at the Ferranti Computing Service Centre in London processes data for Greenall, Whitley Co., Lancashire, which owns a number of breweries and 1,100 public houses. Uses Burroughs Sensimatic equipment to translate to punched tape invoice entries for each bar posted on account cards. Details in simple language.

Inglis, F. "Where Changeover to Electronic Billing Proved Highly Successful." Office Equipment News. August, 1956. pp. 16-18.

New IBM electronic billing system permits coding of 5,500 items sold by Ottawa Fruit Supply Ltd., Ottawa.

Journal of Retailing. Spring, 1959.

Entire issue devoted to automation in retail distribution.

National Retail Merchants Association. Retail Research Institute. A Report on Data Processing Equipment in Member Stores of the National Retail Merchants Association. New York. 1958. 20 pp.

Retail Clerks International Association. Automation in Retailing and Distribution. Washington. 1960. 22 pp.

Suffridge, James B. "Automation's Impact Has Us Worried." AFL-CIO American Federationist. May, 1958. pp. 12-13, 28-29.

Implications for labour in the retail trade in the light of the latest technical trends.

U.S. Congress, Joint Economic Committee. Automation and Recent Trends: Hearings. Subcommittee on Economic Stabilization, 85th Cong., 1st sess., November 14 and 15, 1957. Washington. U.S. Government Printing Office. 1957. 100 pp.

See under EDP in: Banking.

10. SURVEYS

Under this heading are references to studies undertaken to determine the number and type of computers in use and/or the number of employees and occupations involved in electronic data processing.

Administrative Management. "Profiles in EDP: Today, Tomorrow."
October, 1962. pp. 38-40.

Special survey corroborates another study which shows that 97 per cent of individuals now engaged in data processing became involved purely by accident. Also other findings.

Business Automation. "Annual Survey of Data Processing Salaries."
June, 1963, pp. 22-27; July, 1963, pp. 18-23.

Report on a survey of more than five hundred companies in the United States and Canada. It analyzes 53 positions in computer and machine-accounting departments for salary, title, and job content. Covers supervisory and non-supervisory positions.

Canada. Department of Labour. Economics and Research Branch. The Current Status of Electronic Data Processing in Canada.
Report No. 9-A. Research Program on the Training of Skilled Manpower. Ottawa. 1960. 30 pp.

Number and type of computers in use in Canada. Type and size of organization utilizing computers, and kinds of work done. Employment in new occupations and potential impact on employment.

Canada. Department of Labour. Economics and Research Branch. A Second Survey of Electronic Data Processing in Canada, 1962. Report No. 9-C. Research Program on the Training of Skilled Manpower. Ottawa. 1963. 96 pp.

A follow-up and elaboration on Survey No. 9-A "The Current Status of Electronic Data Processing in Canada" (1960). It includes, as an additional feature, salary tables on data processing personnel.

Dymond, W.R. Some Manpower Implications of Electronic Data Processing.
Talk given to the London and District Chapter of the Data
Processing Management Association, London, Ontario, October 24,
1963. 22 pp.

See under Social and Economic Implications.

Ginder, Charles E. Why Automation? Willow Grove, Pa. National Office
Management Association. 1959. 7 pp.

Covers various aspects of electronic and integrated data
processing as a result of the findings of a survey by NOMA,
such as: the size of installation, application, and type of
business; displacement and transfers; and other company
experience.

I.U.D. Bulletin. "White-Collar Jobs Decline Reported in Press Survey."
November, 1962. p. 4. (Industrial Union Department, AFL-CIO).

Recent sampling among New York white-collar job finding
agencies.

Management and Business Automation. "National Survey of Computer
Department Salaries." June, 1960. pp. 1-7.

Job analyses of thirty-five computer jobs.

Office. "Census of Computers." Vol. 55. March, 1962. pp. 140-141.

Office. "Census of Computers." Vol. 56. October, 1962. pp. 110-111.

Slowinski, A.J. "A Study of Electronic Computer Installations."
Marquette Business Review. June, 1957.

A report from 61 companies in 1957.

11. BIBLIOGRAPHIES

This grouping includes bibliographies which contain major sections on office automation.

American Library Association. Joint Committee on Library Service to Labor Groups. "Automation and Its Implications, 1956-1960: A Selected Bibliography." Library Service to Labor. Spring, 1961. Chicago. pp. 1-9.

The general, economic, social, and industrial relations role of automation, manpower and employment, office automation and bibliographies.

Association for Computing Machinery. Computing Reviews. New York. July-August, 1961. 21 pp.

Bimonthly publication of reviews and abstracts of publications in the computer sciences.

Cheek, Gloria. Economic and Social Implications of Automation: A Bibliographic Review. East Lansing, Michigan State University, Labor and Industrial Relations Center, 1960. 125 pp.

Comprehensive bibliography on implications for employment, society and government; training and job requirements; industrial relations and management. Includes office automation and white-collar workers.

Hardin, E. et al. Economic and Social Implications of Automation: An Annotated Bibliography. East Lansing. Michigan State University. 1961. 78 pp.

Companion volume to: "Implications of Automation: Bibliographic Review" by Gloria Cheek. Covers period 1957-1960.

Ronayne, Maurice F. Ed. An Annotated Bibliography for the Systems Professional. Cleveland, Ohio. Systems and Procedures Association. 1962. 353 pp.

Annotated list of papers, books and periodicals of general or specialized value to the Systems Professional.

United States. Department of Labor. Bureau of Labor Statistics. Implications of Automation and Other Technological Developments; A Selected Annotated Bibliography. Washington, D.C. Government Printing Office. 1962. 136 pp. (Bulletin No. 1319.)

Supplements BLS Bulletin No. 1198. Covers publications since 1956.

12. PERIODICALS

A reference guide to some periodicals which often contain articles on office automation.

AMA Management Reports,
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American Management Association
Inc.,
1515 Broadway,
NEW YORK 36, N.Y.

Automation,
James C. Keebler, Editor,
Penton Publishing Company,
Penton Building,
CLEVELAND 13, Ohio.

Automation and Automatic Equipment
News,
Boswell House,
9 Gough Square,
Fleet Street,
LONDON E.C. 4, England.

Business Automation,
Arnold E. Keller, Editor,
155 Fifth Avenue,
NEW YORK 10, N.Y.

Computer Abstracts,
Technical Information Company Ltd.,
Chancery House, Chancery Lane,
LONDON E.C. 2, England.

Computer Bulletin,
British Computer Society,
Finsbury Court,
Finsbury Pavement,
LONDON E.C. 2, England.

Computer Journal,
British Computer Society,
Finsbury Court,
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Computers and Automation,
Edmund C. Berkeley, President,
Berkeley Enterprises, Inc.,
815 Washington Street,
NEWTONVILLE 60, Massachusetts.

Computing News,
Box 261,
THOUSAND OAKS, California.

Data Processing,
Iliffe and Sons Ltd.,
Dorset House,
Stamford Street,
LONDON S.E. 1, England.

Data Processing Digest,
Canning, Sisson & Associates Inc.,
1140 South Robertson Boulevard,
LOS ANGELES 35, California.

Datamation,
F.D. Thompson Publishing Inc.,
141 East 44 Street,
NEW YORK 17, New York.

E.D.P. Weekly,
Industry Reports Inc.,
1327 F Street, N.W.,
WASHINGTON 4, D.C.

Harvard Business Review,
Slediers Field,
BOSTON 63, Massachusetts.

IBM Journal of Research and
Development,
590 Madison Avenue,
NEW YORK 22, N.Y.

Management and Business
Automation,
600 West Jackson Boulevard,
CHICAGO 6, Illinois.

O & M Bulletin,
Treasury Chambers,
Great George Street,
LONDON S.W. 1, England.

Office Administration,
Wallace Publishing Company Ltd.,
146 Bates Road,
MONTREAL 26, Quebec.

Office Management and American
Business,
Geyer-McAllister Publications,
212 Fifth Avenue,
NEW YORK 10, N.Y.

Operations Research,
Hugh J. Miser,
Lincoln Road,
LINCOLN, Massachusetts.

Public Administration Review,
American Society for Public
Administration,
6042 Kimbark Avenue,
CHICAGO 37, Illinois.

Systems Management,
200 Madison Avenue,
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